



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/745,268	12/21/2000	Roderick Nelson	1999-0021	7623
24197	7590	08/24/2006	EXAMINER	
KLARQUIST SPARKMAN, LLP 121 SW SALMON STREET SUITE 1600 PORTLAND, OR 97204			CHO, UN C	
			ART UNIT	PAPER NUMBER
			2617	

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

84

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/745,268	NELSON, RODERICK	
	Examiner	Art Unit	
	Un C. Cho	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-17,21-28 and 30-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/27/2006 has been entered.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 11, 27 and 35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

4. The specification does not specifically disclose the features that were amended and they are as follows:

Regarding claim 1, lines 7 – 9 and lines 12 – 14 of the claim recite, "(c) using a second receiver associated with the radio base station, receiving the

communication signal and obtaining uplink performance parameter associated with the communication signal” and “(e) evaluating the performance of the wireless system using the uplink performance parameters associated with the communication signal received by the second receiver from the mobile wireless device and the location information of the mobile wireless device”.

Regarding claim 11, lines 9 – 11 of the claim recite, “(c) using a second receiver associated with the radio base station, receiving the communication signal and obtaining uplink performance parameter associated with the communication signal”.

Regarding claim 27, lines 10 – 11 of the claim recite, “a second receiver located at the radio base station that receives the at least one uplink performance parameter”.

Regarding claim 35, lines 4 – 5 of the claim recite, “using a second receiver, collecting uplink call data associated with the call to the mobile wireless device, the uplink call data also being collected in real time”.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2617

6. Claims 1 – 5, 7, 9, 11 – 15, 17, 21 – 24, 26 – 28 and 30 – 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garceran et al. (US 6,522,888 B1) in view of Hawkes et al. (US 5,973,643).

Regarding claim 1, Garceran discloses a method of monitoring performance of a wireless system, comprising: transmitting a call comprising a communication signal from a mobile wireless device to a radio base station, the communication signal comprising call data (Garceran: Col. 8, line 57 through Col. 9, line 4); the radio base station receiving the communication signal and delivering the communication signal to a switch that forwards the call (Garceran: Col. 7, line 66 through Col. 8, line 30); the radio base station receiving the communication signal and obtaining uplink performance parameters associated with the communication signal (Garceran: Col. 3, lines 15 – 25); obtaining location information of the mobile wireless device by analyzing the communication signal received by the radio base station (Garceran: Col. 3, lines 12 – 45); and evaluating the performance of the wireless system using the uplink performance parameters associated with the communication signal received by the radio base station from the mobile wireless device and the location information of the mobile wireless device (Garceran: Col. 3, lines 46 – 67).

However, Garceran as applied above does not specifically disclose using a first receiver and a second receiver, whereas the first receiver receives the communication signal and delivers the communication signal to a switch that forwards the call and obtaining location information of the mobile wireless device

by analyzing the communication signal received by the second receiver. In an analogous art, Hawkes remedies the deficiencies of Garceran by disclosing such limitation in Col. 5, lines 20 – 25 and Col. 10, lines 39 – 59 whereas the mobile location sensor (MLS), having multiple receivers, located at the base station intercepts signals coming from a cellular phone to measure and process positioning information (second receiver) separate from the receiver (first receiver) at the base station that is used to forward calls (Hawkes: Col. 1, lines 22 – 31). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the technique of Hawkes to the system of Garceran in order to provide a robust and accurate cellular telephone location system that adapts under varying environmental conditions normally encountered in the cellular frequency bands by minimizing the amount and cost of location equipment and maximize the utilization of location assets, whereas this can be achieved when dedicated receivers, such as the MLS and the cellular transceiver, within the base station perform their functions accordingly without causing interferences to each other.

Regarding claim 2, Garceran in view of Hawkes as applied above discloses wherein the step of evaluating the performance of the wireless system is performed in real-time (performance is evaluated during a call, Garceran, Col. 3, lines 32 – 45).

Regarding claim 3, Garceran in view of Hawkes as applied above discloses wherein the location information of the mobile wireless device is

Art Unit: 2617

collected from a plurality of radio base stations (neighboring base stations can also monitor the wireless unit, Garceran, Col. 4, lines 26 – 48).

Regarding claim 4, Garceran in view of Hawkes as applied above discloses wherein the step of obtaining the location information involves analyzing timestamp data (Garceran, Col. 3, lines 15 – 25).

Regarding claim 5, Garceran in view of Hawkes as applied above discloses obtaining the location information involves using a time difference of arrival location processor (Garceran discloses GPS as a way to determine the location of the wireless unit, but Garceran also mentions that triangulation method can be used to determine the location of the wireless unit as well; Garceran, Col. 3, lines 15 – 25; Col. 14, lines 49 – 59 and Hawkes: Col. 10, lines 39 – 59).

Regarding claim 7, Garceran in view of Hawkes as applied above discloses that the time difference of arrival location processor is in the wireless system (Garceran, Col. 14, lines 49 – 59 and Hawkes: Col. 10, lines 39 – 59).

Regarding claim 9, Garceran in view of Hawkes as applied above discloses obtaining location information of the wireless device is accomplished using a global positioning system unit in the wireless device (Garceran, Col. 6, lines 31 – 58).

Regarding claim 11, the claim is interpreted and rejected for the same reason as set forth in claim 1.

Regarding claim 12, the claim is interpreted and rejected for the same reason as set forth in claim 2.

Regarding claim 13, the claim is interpreted and rejected for the same reason as set forth in claim 3.

Regarding claim 14, the claim is interpreted and rejected for the same reason as set forth in claim 4.

Regarding claim 15, the claim is interpreted and rejected for the same reason as set forth in claim 5.

Regarding claim 17, the claim is interpreted and rejected for the same reason as set forth in claim 7.

Regarding claim 21, Garceran in view of Hawkes as applied above discloses a system for monitoring performance of a wireless system, said system comprising: a plurality of wireless devices which transmit communication signals to a radio base station, the communication signals comprising respective call data and at least one uplink performance parameter (Garceran gives an example with one wireless unit but it would have been obvious to one of ordinary skill in the art that multiple wireless units can be used; Garceran: Col. 3, lines 12 - 45); a first receiver located at the radio base station which receives the communication signals and transmits the communication signals to a switch (it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a base station which has a cellular transceiver that performs the function as stated above); a second receiver located at the



radio base station which monitors the communication signals and transmits timestamp data associated with the communication signals to the switch, the timestamp data being associated with respective locations of the wireless devices (Hawkes: Col. 10, lines 39 – 59; Col. 11, lines 4 – 11 and 52 – 67; Col. 12, line 66 through Col. 13, line 9 and Col. 15, line 38 through Col. 16, line 44); and a system analyzer coupled to the switch which evaluates the performance of the wireless system based on the respective uplink performance parameters and the respective locations of the wireless devices (database (Fig. 2, 52) coupled to MSC (Fig. 2, 58) to evaluate; Garceran, Col. 3, lines 46 – 67 and Col. 7, line 66 through Col. 8, line 31).

Regarding claim 22, Garceran in view of Hawkes as applied above discloses wherein a time difference of arrival location processor is coupled to the switch and to the system analyzer (mobile location sensors (Fig. 1, 18a, 18b and 18c) are coupled to the switch (Fig. 1, 3) and real-time location processor (Fig. 1, 5); Hawkes, Col. 5, lines 8 – 17).

Regarding claims 23, 24, and 27, the claims are interpreted and rejected for the same reason as set forth in claim 21.

Regarding claim 26, Garceran in view of Hawkes as applied above discloses wherein the second receiver receives location information from global position system units in each of the plurality of wireless devices (Garceran, Col. 6, lines 31 – 58 and Col. 14, lines 49 – 59; Hawkes, Col. 11, lines 4 – 11 and 52

– 67; Col. 12, line 66 through Col. 13, line 9 and Col. 15, line 38 through Col. 16, line 44).

Regarding claim 28, Garceran in view of Hawkes as applied above discloses wherein the location information measurement unit is associated with a time difference of arrival technique (Garceran, Col. 14, lines 49 – 59).

Regarding claim 30, Garceran in view of Hawkes as applied above discloses locating a geographical area associated with faulty coverage based on the performance evaluation (Garceran, Col. 5, lines 15 – 32 and Col. 11, lines 10 – 36).

Regarding claim 31, Garceran in view of Hawkes as applied above discloses wherein the evaluation is based on mobile-assisted handoff information (Garceran, Col. 10, line 36 through Col. 11, line 9).

Regarding claim 32, Garceran in view of Hawkes as applied above discloses generating an information report concerning signal coverage of a geographical area based on the performance evaluation (entries in a coverage database (Fig. 3B); Garceran, Col. 5, line 33 through Col. 6, line 30).

Regarding claim 33, Garceran in view of Hawkes as applied above discloses adjusting the radio base station based on the performance evaluation (choosing the best candidate to handoff the wireless unit; Garceran, Col. 10, lines 36 through Col. 11, line 9).

Regarding claim 34, the claim is interpreted and rejected for the same reason as set forth in claim 30.

Regarding claim 35, Garceran in view of Hawkes as applied above discloses a method of assessing wireless system performance, comprising: collecting downlink call data associated with a call to a mobile wireless device; collecting uplink call data associated with the call to the mobile wireless device; obtaining location information associated with the mobile wireless device (collecting measurements on the forward link and reverse link and obtaining wireless unit's location information; Garceran, Col. 3, lines 26 – 45); and based on the downlink call data, the uplink call data, and the location information, evaluating system performance (Garceran, Col. 3, lines 46 – 67).

Regarding claim 36, Garceran in view of Hawkes as applied above discloses removing transient effects from the system performance evaluation based on the uplink call data and the location information (Garceran, Col. 8, lines 31 – 48).

7. Claims 6, 10, 16, 20 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garceran in view of Hawkes as applied to claim 5 above and further in view of Kong (US 6,275,186 B1).

Regarding claim 6, Garceran in view of Hawkes as applied above discloses detecting the location of a wireless unit using triangulation (Garceran, Col. 14, lines 49 – 59).

However, Garceran in view of Hawkes as applied above does not specifically disclose that the time difference of arrival location processor is in the

mobile wireless device. In an analogous art, Kong discloses that the time difference of arrival location processor is in the mobile wireless device (TDOA location processor (Fig. 3A, 320) is in the mobile station; Kong, Col. 7, lines 19 – 45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the technique of Kong to the modified system of Garceran in view of Hawkes in order to provide an accurate MS locating method for continuous positioning whereas the MS measures and determines the TDOA and SIR (Signal-to-Interference Ratio) of each BS channel to efficiently determine the position of the MS in a CDMA communication system synchronized to the GPS.

Regarding claim 10, Garceran in view of Hawkes and further in view of Kong as applied above discloses obtaining location information of the mobile station is accomplished using RF finger printing using dispersion characteristics of the communication signal (Kong, Col. 7, lines 28 – 38).

Regarding claim 16, the claim is interpreted and rejected for the same reason as set forth in claim 6.

Regarding claims 20 and 25, the claims are interpreted and rejected for the same reason as set forth in claim 10.

### ***Response to Arguments***

8. Applicant's arguments with respect to claims 1 – 7, 9 – 17, 25, 27 – 28 and 30 – 36 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 2617

9. Applicant's arguments filed 6/27/2006 have been fully considered but they are not persuasive.

Regarding claim 21, the applicant presented the argument that the reference by Hawkes fails to teach that the receivers do not have separate tasks, thus not performing differently. The examiner respectfully disagrees with the arguments provided by the applicant. Hawkes clearly teaches that mobile location sensor (MLS) is located at the base station (Hawkes: Col. 10, lines 39 – 59), in other words, the base station as is known to one of ordinary skill in the art, has its transceiver and also the mobile location sensor having its receivers. Therefore, the base station transceiver and the MLS receivers clearly perform different tasks.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Un C. Cho whose telephone number is (571) 272-7919. The examiner can normally be reached on M ~ F 8:00AM to 4:30PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Un C Cho  
Examiner  
Art Unit 2617

*8/18/06 ac*

  
GEORGE ENG  
SUPERVISORY PATENT EXAMINER